Identity Working Group Sponsored by Pithia Inc.

Charter
2018-03-19

Outline

1. Vision and Motivation

Pithia's mission includes ensuring the overall RChain ecosystem grows and thrives, through investing in high-potential companies, especially those able to deliver solutions that help accelerate adoption. As agreed-upon interoperable standards for self-sovereign IDs and other protocols are implemented, use of blockchain platforms will accelerate. Beyond the base RChain platform being delivered by the RChain Cooperative, we'll promote the development basic "horizontal" enablers including platforms and protocols that leverage common data formats (e.g. JSON schemas), traditional APIs (REST, JSON RPC, OpenID Connect), and/or smart contract protocols/interfaces (similar to ERC725).

Pithia shares a vision with many others working on digital identity for solving a number of problems that exist today in popular systems as well as new challenges emerging in the cryptocurrency world. For example, we will help strengthen security of digital identities away from password-based authentication with a mobile-based 2FA (two factor authentication) SMS or authenticator application. Stronger digital identity solutions will in turn allow users to own and control their own data, conscientiously sharing private data with selected parties as appropriate.

The deliverables from this working group -- as they are incorporated into complete solutions by its members and others -- will deliver a number of benefits, potentially including: help reduce individual's risk of losing sensitive data or valuable assets because of somebody else's bad decisions e.g. during KYC background checks, credit checks, and storing PII. This will be achieved through the creation and adoption of self-sovereign digital identity mechanisms that enable individuals to establish, claim, verify, and transfer their online identities across multiple applications and public blockchain implementations.

We've formed this working group to allow product companies to work toward open standards to achieve objectives such as those above. Together, we'll be identifying and adopting existing

standards, collaborating with existing industry groups, developing new de facto standards for data exchange and protocol standards that are independent of a particular smart-contract-based blockchain.

From the perspective of other working group participants, the majority of whom are product companies, they wish to accelerate their delivery of solutions to the problems mentioned. In addition, the network effects of a growing population of individuals with self-sovereign identities (and verifiable claims, attestations) will accelerate adoption more broadly (competing against the centralized identity/authentication providers and private data brokers).

Once these standards are in place, companies can leverage them to deliver products that may:

- Provide a layer for open, permission-less digital identity for applications.
- Manage personal data via off-chain, private-chain, or on-chain, depending on the data and context.
- Leverage standards to enable cross-vendor interoperability and sharing across products (DIDs, and ideally verifiable claims, attestations, and revocations, as well).
- Establish new mechanisms for authentication and authorization of access to/from Internet (web) and Internet-connect physical devices.
- Improve and accelerate reputation-based trust of entities on the internet.
- Enable solutions for KYC, AML, and other regulatory compliance.
- Remove reliance on many centralized identity providers.
- Provide protocols for social recovering of credentials.

For additional background and use cases motivating this work, see the References section.

2. Work Products

Periodically, perhaps quarterly, the working group will publish an update of standards and standards in progress, including:

1. Pointers to reference material.
2. List of endorsed / adopted standards with commentary.
3. Reference architecture diagram, including what is on-chain versus off.
4. Data interchange formats (e.g. DIDs, Verified Claims).
5. API definitions.
6. Blockchain protocol definitions, interaction diagrams.
7. Specifications for smart contracts.
8. Requirements on and assumptions of the RChain Platform (e.g. ECDSA curves supported, account abstraction, ZKPs (zero-knowledge proofs)).
9. Reference implementations of smart contracts.
10. List of companies and projects intending on adopting the WG recommendations.
11. Announcements, releases of work product.

Potential Future Work Products

1. Interoperability tests across blockchain implementations
2. Interoperability tests across vendor products (on one or multiple blockchains)

3. Activities

The Identity Working Group will regularly collaborate over a number of channels, with an overall focus on advancing the completion of work products as outlined in the Work Products section, above.

Recurring activities:

- Contribute regularly to WG Slack #Identity channel conversations
- Attend periodic WG hangouts, led by moderator
- Liaise with the initiatives of other standards groups
- Propose, collaborate, and review revisions to work products
- Adopt and release work products
- Provide feedback based on member implementations

4. Collaboration with Others

Following are several standards organization and working groups we intend to collaborate with on standards.

- Rebooting Web of Trust / Decentralized Public Key Infrastructure (DPKI)
- OpenID Connect
- W3C:
    - W3C Verifiable Claims Working Group
    - W3C Credentials Community Group
    - W3C DID Directory service discovery
- Decentralized Identity Foundation, http://identity.foundation/

- ID2020 https://id2020.org/

5. Moderator

Chris Boscolo will be the initial moderator through December 31, 2018.

6. Membership in Working Group

Membership invitations will be sent from Pithia (Ed Eykholt) and continued involvement will be subject to staying active in contributions to the group's objectives.

General prerequisites for invitation:

- Organizations and Individuals who are very focused on productizing decentralized identity solutions leveraging public blockchains.

- Individuals can track the conversation among experts
- Willing to work and deliver improvements to work products
- Help others in the working group

Current Membership

Member	**Primary Contact**
LifeID	Chris Boscolo, CEO (and WG Moderator)
NuID	Locke Brown, CEO
Sovrin	Drummond Reed
TrustedKey	Prakash Sundaresan, CTO
Verif-y	Ed Zabar, Founder/CEO
Dynas Yuan	Dynas Yuan, individual

7. References

These references provide a good background and primer for topics of self-sovereign digital identities.

1. Three Pillars of an Identity Blockchain, Chris Boscolo, LifeID.
2. UPORT: A Platform for Self-Sovereign Identity, Cr. Christian Lundkvist et al., uPort
3. Don't Believe the (Blockchain) Hype, One World Identity
4. Digital Identity – Why It Matters and Why It's Important We Get It Right, World Economic Forum
5. Different Approaches to Ethereum Identity Standards, Pelle Braendgaard, uPort

6. Sovrin: A Protocol and Token for Self-Sovereign Identity and Decentralized Trust
7. Top 100 Influencers in Identity - 2018, One World Identity
8. 2018 Identity Landscape, One World Identity
9. Tell me who you are, Vinay Gupta
10. Identity - Past Solutions & Current Blockchain Landscape, Andy Atkin
11. Decentralized Key Management System (DKMS), Drummond Reed, Evernym and Sovrin Foundation
12. Digital Identity: Six Degrees of Freedom, Tim Bouma
13. The Path to Self-Sovereign Identity, Christopher Allen
14. Decentralized Digital Identities and Blockchain – The Future as We See It, Alex Simons, Microsoft